

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICE CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." VIRG.

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AGRICULTURE.

Virginia Husbandry.

Editorial Notes on the Agriculture of certain counties in Virginia, continued from page 66.

Leaving Winchester for Staunton, a kind letter from Judge H. introduced me the same evening to the civilities of Major H. whose spacious mansion of more than 100 feet in length attracts the notice and admiration of the traveller soon after passing Middletown. It serves to adorn a fertile farm of six thousand acres, and is built of a kind of stone which abounds in that country, and which is beautifully adapted to the purposes of building and fencing. On learning the extent of this estate, I could not help reflecting on the vast difference that exists in the rural and social economy, habits and circumstances of sister states; living, nevertheless, in the greatest harmony under the same general government. How wonderful is the political structure which binds together parts apparently so heterogeneous! How much to be admired is the patience and wisdom of the fathers who devised and established it! South of the Chesapeake, it is not uncommon to find from one to ten thousand acres of land occupied by a single proprietor, whereas to the question put by the Massachusetts Agricultural Society to one of the County Societies, "of what quantity of land do the farms in your vicinity generally consist?" The answer was, "from fifty to two hundred; generally about one hundred acres." Fifty acres is there considered adequate to the sustenance of a large family, nor will this appear at all incredible to the Southern farmer, when he considers the immensely productive capacity of the earth, if pushed to its greatest yield by the skilful application of labour and manure. In proof of her amazing fruitfulness when properly encouraged to display it, I will here introduce for the notice of the large landholder of the South, one or two examples.

In 1814 the Androssan Farmer's Society offered a silver medal for the best and heaviest crop of turnips in the Parish of Dundonald, situated in the west of Scotland; and appointed two judges to inspect the different fields, cultivated within the bounds.

They proceeded in the execution of their duty, and in compliance with the requisitions of the Society, by weighing a square rod taken from the average of the fields in different parts—the result of their investigation was, that on one farm, a Scotch acre, which is short of an acre, and a quarter English measure, produced in turnips—

	Tons.	cwt.	lbs.
Of bulbs, without leaves	76	0	0
Of leaves, by themselves	14	0	0
	90	0	0

Forty bushels of turnips are about equal to a done is to offer, in a very desultory shape, some a ton; and the quantity per acre, therefore, in facts which appear, on recollection to be worthy bulbs alone, arise to the enormous amount of of being stated.

3040 bushels, besides fourteen tons of leaves, of highly nutritive quality. Estimating the bulbs at 33 cents per bushel, an acre will fetch upwards of one thousand dollars, a sum sufficient to awaken the utmost agricultural industry. On another farm the same judges found—

	Tons.	cwt.	lbs.
The bulbs weighed	49	11	17
The leaves	17	5	51
	66	16	68
	Tons.	cwt.	lbs.

On another they found that the

bulbs weighed—	48	7	16
The leaves	20	0	0
	68	7	16

Another impressive example worthy of being mentioned, is that of the Alms House farm in Salem, which consists of about thirty-five acres. In 1816 it is represented to have been in a rough uncultivated state, and in 1818 it produced—

Of Pork killed, 7960 pounds
12 live Pigs sold for 42 dollars
On hand, 57 live Pigs
Corn, 400 bushels
Potatoes, 2250 bushels
Turnips, 900 bushels
3 tons Squashes

50 tons Pumpkins—and all the common summer vegetables for the use of the Alms House.

Let these examples serve to demonstrate what may be done by labour judiciously exercised, and determine the farmer to concentrate his manure and his toils that he may apply them with much more effect on a smaller surface; extending gradually the sphere of his operations as fast only as he can do it with profitable effect. It were useless here to speculate on the moral and political causes which have and will continue to retard the progress of this great state in fertility and population; or to calculate her amazing physical strength when, if ever, a happier order of things shall have drawn her immense resources into fair and full operation.*

"Bell Grove" estate opened a wide field for interesting observation, if my health and leisure had allowed me to gather what might have been learned from the ample experience of its industrious and observant owner. But having no minutes of our conversation, all that can be

*It has been estimated that in Massachusetts proper, on an area of 6,000 square miles, there is at this moment a population of half a million, or eighty to the square mile—and that in a general survey, their climate and soil may be considered as of a medium character—an equal denseness of population, would give Virginia upwards of 5,000,000.

Major H. was the first who introduced the use of Plaster of Paris, in connexion with the field culture of clover in the Valley of Shenandoah—and was well satisfied after more than twenty-five years experience, that its effect on clover and other crops, had greatly diminished: as a substitute for Gypsum, which had been for many years almost the sole reliance, he was about to construct kilns for burning lime, to which he had been more immediately induced by the essays of Doctor Black, of Delaware, published in the commencement of the second volume of this work.—The stone is inexhaustible in this valley, and it was matter of much surprise to me, that the farmers residing in it, should not have availed themselves of a resource so obvious, efficacious and plentiful. There prevails, of course, a want of information on the best method of constructing lime kilns—and I should feel particularly indebted to any one, who would enable me to supply my readers with the requisite particulars on this subject. A sketch might easily be made, which, being engraved would clearly represent the internal structure of the kilns, and accompanied with explanations, as to time, quantity and manner, would render the whole subject profitably familiar to the cultivators of a vast extent of country, on the face of which this valuable manure, has hitherto remained unemployed and useless.

The general system pursued by Major H., is a mixed one—under which the cultivation of the staple grains, wheat, rye, oats and corn are combined with the manufacture of some of these into spirit, and with grazing to a large extent—Cattle for grazing, are bought at his gate as they are driven down the valley. In some seasons the droves amount to 12,000 head. The average cost was about \$27 per head. They are generally purchased early in September, fed through the winter on straw and corn fodder—salted—and fattened the next summer and fall, and sometimes sold on the farm, but more generally sent to market and disposed of at an advance, heretofore, of little less than double their first cost.

Oxen are much used in the cart and harrow, by Major H., who is of opinion that they may and ought to be employed to do all the hauling on a farm—His oxen draw wood two miles as fast as horses, and he thinks they are coming into much more general use than formerly. The perverse prejudice against mules, noticed as being prevalent in Jefferson County, exists here with the same force, in defiance of the most unanswerable proofs of their incalculable value—amongst other ridiculous notions, an idea prevails that they do not possess sufficient strength. If this were the case, how does it happen that the practical farmer, in the habit

of using mules and witnessing their extraordinary fidelity, hardiness and duration, is *never known to offer one for sale or barter*? Many are slow to get them, but having used them, they soon learn to appreciate their value. Look at the everlasting mule teams, in the heavy coal wagons, employed by Gen. Ridgely, in his extensive iron manufactories, and in the ploughs at Hampton! What would induce him to substitute horses in their stead? The very expense saved by the use of the former, on so large a scale, is known to constitute a heavy item in the profit-and-loss-account, of these establishments—doubtless they might be made to answer the same end in our mail stage coaches.

The river bottom part of Belle-Grove estate, was estimated to yield 6 barrels of corn per acre—the upland not more than four. The wheat crop did not exceed 12 bushels per acre.—So low was the price of wheat and rye, that both these crops were ground, and either fed to fattening cattle, or distilled. One third of corn, and two-thirds of rye, yield under the process followed by Major H. eleven quarts of spirit to the bushel, while *old* wheat gives three gallons to the bushel—but *new* wheat will “over work” itself, and throws up little more than two gallons. It is the province and the pride of chemistry, to direct these operations to a profitable result, and to detect the causes, when unequal proportions are obtained without any obvious difference, either in the materials or the process of distillation. In fact, we may ask in what department is it not important to be armed with chemical knowledge from the building of a steam ship, to the manufacture of a soap cake?

The staple and average products of this farm, have been mentioned because from its conspicuous location—its size and fertility, and the wealth and great respectability of its owner, it is very generally known.

Though heir to a large estate, Major H. was a volunteer in the Revolution, and afterwards intermarried with the sister of our late President Madison—his rooms are ornamented with full length likenesses of the elder Mr. & Mrs. Madison, and their daughter, the late Mrs. H. sister to President Madison, to all of whom a strong family likeness is recognised in the countenance of the latter.

Mrs. Madison is represented in a plain rich dress, according to the fashion of that day, with the bible lying open before her—and the old gentleman appears with his elbow resting on a small table, with two volumes—a blue covered pamphlet, and THE RIGHTS OF MAN. That this work should have been thus selected, as the chosen companion of such a man, struck me as a forcible evidence of its popularity in that day—and a most impressive intimation of his reverence for its political principles. It would seem however, as if all gratitude for the author of a work which so powerfully contributed to arouse and to brace the minds of the people, to meet the storms and difficulties of the Revolution, have been eradicated by the imbecile heresies of a petty tract—so true is it, that the “evil that men do, lives after them, the good is oft buried with their bones.”

I must here mention, as more immediately connected with the subject of these notes, that

amongst other improved implements of modern invention in use on this estate, I observed the cultivators of the best model, much employed for working corn; and, as I apprehend, the most efficient *Threshing Machine*, which has been made or used in this country. These machines are made by Mr. Wright, of Middletown—cost \$400, and are either fixed or portable, and driven by four or six horse power. To inform ourselves and answer the enquiries of a subscriber, we took recent occasion to address the maker of these machines, and here submit his letter, and one from Major H. as, in some measure explanatory of their powers and advantages.

MIDDLETOWN, June 15, 1821.

SIR,—Yesterday I received your favours of the 11th inst. and the information you have had is correct, respecting the machines for Mr. Yates and Major H.—The latter I had an opportunity of seeing this morning, and requested him to give you his opinion upon the subject, which I have taken the liberty to enclose. Of the permanent or fixed machines, we made four last summer, the two above mentioned and one for Mr. Robert —, near Winchester, and one for Mr. Mattison Hite, Stone Bridge, Frederick County—They have all threshed large crops out, and they have not had one stroke struck at them since we put the horses to them; they shake off the straw by cylindrical rakes, and clean or fan the grain. We make them very strong, with iron gear—they are substantial, will keep in order and last a long time. We threshed at Mr. Yates, I believe, 35 or 37 bushels in one hour, and at Mr. Page's 20 bushels in 31 minutes, but a great deal depends on the grain, viz. its yield, &c. The Portable Machines are made expressly so as to move with the greatest possible facility, as I have generally made them to travel or move about a country, to thresh for hire. We can move them so quick that I would engage to thresh at any two given places in one hour and a half, allowing for the time upon the road; and I never calculate upon threshing less than thirty bushels of wheat per hour—I have exceeded 40 per hour.—In England, three years next winter, I threshed 40 qrs. 320 bushels of oats in between 7 and 8 hours. They are so constructed as to require no taking to pieces, and will work in the barn or field, we have threshed in both places in one day, nor is it necessary that the barn floor be level with the outside—they are driven by gear and universal joints, not by straps.

I can make a Portable Machine to clean or fan,—but it would make them more cumbersome to move—and as they have already movements enough, it would in adding to these, subject them more to disorder. Upon the whole, Sir, I am of the opinion, from theory as well as from extensive practical observation, that the fixed or immoveable machine, will be found to be of the greatest utility—and will give the most lasting satisfaction—the price of either is four hundred dollars—the portable machines, have the necessary apparatus for moving them, except the carriages—Two men can fix or unfix one, viz. load or unload.—We have at present, two in hand—the one you heard of—a portable one for a young man that is going to travel with

her, in Jefferson County, and thresh for hire. She will be finished in 10 or 12 days—he will not give her up, as he has a good deal of work engaged at harvest—the other is bespoke, a fixed one for Mr. Wm. Wilson, Berkeley county. I would recommend a fixed one to you. Nevertheless I shall be glad to make one to your order. I am acquainted with every sort of Threshing Machine that had been made in England, previous to the summer of 1818; and making them, and other agricultural implements, drills, &c. hath been my business. I feel myself obliged to you for your favour of the draft you enclosed—it is interesting, as I had never seen one. There was a machine to which the horses were attached, as in your draft, in the neighborhood of Yorkshire Wolds, not very far from where I was putting up some. I did not see it, but I believe there was no more made on the plan there about—it was allowed to give credit to the inventor's genius, but not to produce beneficial effects, equivalent to the additional expense. I am not bound to any particular point, how the horses are attached, but ready to adopt what is best; if I understand your draft right, which I think I do, it would answer a good purpose were all the horses of an equal strength, which upon a farm, is very seldom the case—it strikes me that a weak horse would be over poised by his neighbour at the other end of the rope, and consequently he will fall back and his hame hooks or rings will have to rest at the sheeves at the bottom of the yokes, rope or chain—however, that is a matter of no moment. It would be an additional expense, but might render the machines more complete and interesting, and I shall be very glad to fix one for any gentleman upon this plan: but here we have been obliged to furnish them for as little money as we possibly can. I made them generally with chains and sheeves, and sometimes I only put staples and links according to agreement. I can furnish you with a machine to order early in the fall, say, probably, October—will thank you to write as soon as convenient—an order will be thankfully accepted by Your Obedient Servant, GEORGE WRIGHT.

BELLE-GROVE, June 15th, 1821.

DEAR SIR,

Mr. George Wright presented me your letter to him on the subject of his *wheat threshing machines*.

He has constructed for me a portable and a stationary machine, both of which operated beyond my most sanguine expectation. The portable machine separates only the wheat from the straw, whereas the stationary one separates not only the wheat from the straw, but cleans the wheat sufficiently for the purposes of sowing; and will conveniently get out one hundred and fifty bushels of wheat per day. The portable machine, I am convinced would get out four hundred per day provided it be pushed.

I am decidedly of opinion upon moderate sized farms the stationary machine would be the most eligible on account of its greater simplicity, it is more easily kept in repair; and on account of separating the wheat, chaff, and stem, in the same operation.

The price of either of the machines is four hundred dollars. I am, &c. F. H.

THE SHEEP OF PERU

Are exceedingly valuable, and ought to be introduced into the U. STATES OF NORTH AMERICA.

(Concluded from page 95, No. 12.)

THE VICUNA.



The Vicuna is the smallest and most delicate of the Peruvian sheep, but as respects the peculiar fineness and consequent value of its wool, it is perhaps the most important animal of the globe.

The wool of the Vicuna is the softest, finest and most silky of any in the world—it surpasses the fur of the Canadian beaver, the down of the swan, the fleece of the brebis des Calmoks, or of the Syrian Goats. It extends from the shoulder, all along the back, rump and upper flanks, unmixed with hair, in a perfect tuft—the fleece under the belly is generally white, but that of the body in general is red, or a russet brown.

Its ordinary height is about three feet—it is not so majestic an animal as the other species of Peruvian sheep, and the formation of the head is entirely different as will be seen by the annexed plate. These animals seek the loftiest summits of the cordilleras, and rarely descend into the plains in search of food—they sometimes herd with the Huanaco, and occasionally intermix with them as has been proved by the skins which the hunters bring from the mountains, several of which partake of the characteristics of the two species.

They do not eat with the avidity of the Llama and Alpaca, nor interfere with the pursuits of culture—they seem content with the scanty allowance they pick amidst the snow-capped cordilleras, resorting to the most inaccessible places of the mountains, where they enjoy pure air, freedom and solitude.

Until the experiment was made by the Je-

suits which we have before mentioned, it was universally believed that they could not be domesticated, but that experiment not only removed the vulgar error on that point, but proved the facility with which they intermixed with the common sheep, and it was likewise found that the wool of the tame Vicuna which was sent by the Jesuits to Spain, was far superior to any that had ever before been seen. No doubt therefore exists in our mind, that if the Vicuna is now taken in a suckling state, and reared up with care, in a few years they would be completely domesticated, and of course exported from the country with as much ease as the Llama or Alpaca, & indeed if those which have been taken in a wild state, and are now exhibited in England, France and Spain, as objects of curiosity, had been placed among herds of the common European sheep, it is probable they would have intermixed with them.

The usual weight of the Vicuna is from 75 to 100 pounds, but the Jesuits say they improved in size, and reached the weight of 140 and 150 pounds. Another important fact is stated by the Jesuits, that is, the Vicuna became remarkably fond of the *green blades of Indian corn*, and likewise of *pounded corn, potatoes, turnips* and fruits of almost every species were offered them and rarely rejected—consequently plenty of congenial subsistence will be found for the Vicuna in every part of our country.

The Llama and Alpaca now in England, prefer *green rye and carrots* to any other food, therefore every doubt is removed respecting each of the four species of Peruvian sheep find-

ing in the U. S. herbs and grains suitable for their subsistence.

The flesh of the young Vicuna is considered by the Indians next in delicacy to the Llama lambs, and even medicinal virtues are attributed to the Vicuna flesh.

The skin of the Vicuna when manufactured is as soft as morocco, and will be valuable for gloves, &c. and indeed the skins of all the four species of Peruvian sheep are important, as they are known by the natives of Peru, to make more durable leather than the skins of any other animals.

From the preceding observations it is evident; first, that the *Llama* and *Alpaca* are domestic animals in Peru, highly valuable as beasts of burthen, and more so, as respects their fleece—and as regards the Vicuna, it is almost unnecessary to dwell on the high importance such an animal would be to our country, more especially when the breed is crossed with our common sheep.

Some idea may be formed of the prolific qualities of this animal, when an intelligent South American has stated that the number of Vicunas which annually perish by the hands of the hunters, exceed 250,000; and besides this, a vast number must be destroyed by the wild beasts of the forest; nevertheless, they are still abundant not only on the lofty mountains of Peru, but in the cordilleras of Chili.

The rude manufactures of the Chilians and Peruvians from the wool of the Alpaca and Vicuna, furnish evidences of what may be accomplished in future when those people shall enjoy the advantages now common throughout the civilized world.

I have seen a shawl manufactured by a Peruvian female, under many disadvantages, from the Vicuna wool, which rivalled, in fineness those of Cachemere, and I likewise saw a cloak in the possession of a priest who assured me that he had worn it for fifteen years, yet it was apparently as good as if it had only been worn a few months.

The preceding remarks on the four classes of Peruvian sheep must be viewed as merely cursory—there are many other particulars respecting this valuable race of quadrupeds, which I flatter myself will be supplied by the intelligent South Americans who frequently visit our country, and likewise by our countrymen who are occasionally visiting Peru and Chili, for purposes of traffic and information.

The American squadron now preparing to visit the Pacific Ocean, will no doubt take out some of our citizens capable of appreciating the value of the hints suggested in this brief memoir, and I flatter myself that our government, and the officers of the squadron will find the subject worthy of their attention, and that before the close of another year we shall see the whole of the four species of Peruvian sheep introduced into our country, and a fair experiment made under the auspices of government and the agricultural societies in the different states of our union.

In a future number of the American Farmer, I shall offer some further suggestions on the domestication of the Vicuna, and the crossing of the respective breeds of the Peruvian sheep,

and likewise treat of the various kinds of wool imported from South America, showing their importance to our manufactures, and to which will be added a few remarks on the dyes used by the Indians, many of which are unknown in Europe, and I think will be found of great importance to our manufacturing interests.

WM. DAVIS ROBINSON.

New-York, May, 1821.

ON THE FORM OF ANIMALS,

BY HENRY CLINE, Esq. SURGEON.

From the publications of the Board of Agriculture, England, Vol. IV.

The form of domestic animals has been greatly improved by selecting with much care, the best formed for breeding—but the theory of improvement has not been so well understood, that rules could be laid down for directing the practice. There is one point particularly respecting which the opinions of breeders have much varied, which is, whether crossing the breed be essential to improvement.

It is the intention of this communication to ascertain in what instances crossing is proper, and in what prejudicial; and the principles upon which the propriety of it depends.

It has been generally supposed that the breed of animals is improved by the largest males. This opinion has done considerable mischief, and would have done more injury if it had not been counteracted by the desire of selecting animals of the best form and proportions, which are rarely to be met with, in those of the largest size.

Experience has proved that crossing has only succeeded in an eminent degree, in those instances in which the females were larger than in the usual proportion of females to males; and that it has generally failed when the males were disproportionally large.

The external form of domestic animals has been much studied, and the proportions are well ascertained. But the external form is an indication only of internal structure. The principles of improving it must therefore be founded on the knowledge of the structure and use of internal parts.

The lungs are of the first importance. It is on their size and soundness that the health of an animal principally depends. The power of converting food into nourishment, is in proportion to their size. An animal with large lungs, is capable of converting a given quantity of food into more nourishment than one with smaller lungs, and therefore has a greater aptitude to fatten.

The Chest.

The external indication of the size of the lungs is the form and size of the chest; the form of which should have the figure of a cone, having its apex situated between the shoulders, and its base towards the loins.

The capacity of the chest depends upon its form more than on the extent of its circumference; for, where the girth is equal in two animals, one may have much larger lungs than the other. A deep chest therefore is not capacious unless it is proportionally broad.

The Pelvis.

The pelvis is the cavity formed by the junction of the haunch bones with the bones of the rump. It is essential that this cavity should be large in the female, that she may be enabled to bring forth her young with less difficulty. When this cavity is small, the life of the mother and of her offspring is endangered.

The size of the pelvis is chiefly indicated by the width of the hips and the breadth of the *twist*, which is the space between the thighs.

The breadth of the loins is always in proportion to that of the chest and pelvis.

The Head.

The head should be small, by which the birth is

facilitated. Its smallness affords other advantages, and generally indicates that the animal is of a good breed.

Horns are useless to domestic animals. It is not difficult to breed animals without them. The breeders of horned cattle and horned sheep, sustain a loss more extensive than they may conceive; for it is not the horns alone, but also much more bone in the skulls of such animals to support their horns; besides there is an additional quantity of ligament and muscle in the neck which is of small value.

The skull of a ram with its horns, weighed five times more than another skull which was hornless. Both these skulls were taken from sheep of the same age, each being four years old. The great difference in weight depended chiefly on the horns; for the lower jaws were nearly equal, one weighing seven ounces, and the other six ounces and three quarters; which proves that the natural size of the head was nearly the same in both, independent of the horns and the thickness of the bone which supports them.

In a horned animal, the skull is extremely thick. In a hornless animal it is much thinner; especially in that part where the horns usually grow.

To those who have not reflected on the subject, it may appear of little consequence whether sheep and cattle have horns—but on a very moderate calculation it will be found, that the loss in farming stock, and also in the diminution of animal food, is very considerable, from the production of horns and their appendages. A mode of breeding which would prevent the production of these, would afford a considerable profit in an increase of meat and wool, and other valuable parts.

The length of the neck should be proportioned to the height of the animal, that it may collect its food with ease.

The Muscles.

The muscles and tendons, which are their appendages, should be large; by which an animal is enabled to travel with greater facility.

The Bones.

The strength of an animal does not depend upon the size of the bones, but on that of the muscles. Many animals with large bones are weak, their muscles being small. Animals that were imperfectly nourished during growth, have their bones disproportionally large. If such deficiency of nourishment originated from a constitutional defect, which is the most frequent cause, they remain weak during life. Large bones, therefore, generally indicate an imperfection in the organs of nutrition.

On the improvement of Form.

To obtain the most approved form, two modes of breeding have been practiced—one, by the selection of individuals of the same family—called *breeding in-and-in*. The other by selecting males and females from different varieties of the same species; which is called *crossing the breed*.

When a particular variety approaches perfection in form, breeding in-and-in may be the better practice—especially for those not well acquainted with the principles on which improvement depends.

When the male is much larger than the female, the offspring is generally of an imperfect form. If the female be proportionally larger, the offspring is of an improved form. For instance, if a well formed large ram be put to ewes proportionally smaller, the lambs will not be so well shaped as their parents; but if a small ram be put to larger ewes, the lambs will be of an improved form.

The proper method of improving the form of animals, consists in selecting a well formed female, proportionally larger than the male. The improvement depends on this principle, that the power of the female to supply her offspring with nourishment is in proportion to her size, and to the power of nourishing herself from the excellence of her constitution.

The size of the fetus is generally in proportion to that of the male parent; and therefore, when the female parent is disproportionally small, the quantity of nourishment is deficient, and her offspring has all the disproportions of a starveling. But when the female, from her size and good constitution, is more

than adequate to the nourishment of a fetus of a smaller male than herself, the growth must be proportionately greater. The larger female has also a greater quantity of milk, and her offspring is more abundantly supplied with nourishment after birth.

To produce the most perfect formed animal, abundant nourishment is necessary from the earliest period of its existence, until its growth is complete.

It has been observed, in the beginning of this paper, that the power to prepare the greatest quantity of nourishment, from a given quantity of food, depends principally upon the magnitude of the lungs, to which the organs of digestion are subservient.

To obtain animals with large lungs, crossing is the most expeditious method; because well formed females may be selected from a variety of a large size, to be put to a well formed male of a variety that is rather smaller.

By such a method of crossing, the lungs and heart become proportionately larger, in consequence of a peculiarity in the circulation of the fetus, which causes a larger proportion of the blood, under such circumstances, to be distributed to the lungs than to the other parts of the body; and as the shape and size of the chest, depend upon that of the lungs, hence arises the remarkably large chest, which is produced by crossing with females that are larger than the males.

The practice according to this principle of improvement, however, ought to be limited; for, it may be carried to such an extent, that the bulk of the body might be so disproportioned to the size of the limbs as to prevent the animal from moving with sufficient facility.

In animals, where activity is required, this practice should not be extended so far as in those which are required for the food of man.

On the Character of Animals.

By character in animals is here meant, those external appearances by which the varieties of the same species are distinguished.

The characters of both parents are observed in their offspring; but that of the male more frequently predominates. This may be illustrated in the breeding of horned animals; among which there are many varieties of sheep, and some of cattle, that are hornless.

If a hornless ram be put to a horned ewe, almost all the lambs will be hornless; partaking of the character of the male rather than of the female parent.

In some counties, as Norfolk, Wiltshire, and Dorsetshire, most of the sheep have horns. In Norfolk the horns may be got rid off by crossing with the Ryeland rams; which would also improve the form of the chest and the quality of the wool. In Wiltshire and Dorsetshire, the same improvements might be made by crossing the sheep with South Down rams.

An offspring without horns might be obtained from the Devonshire cattle, by crossing with hornless bulls of the Galloway breed; which would also improve the form of the chest, in which, the Devonshire cattle are often deficient.

Examples of the good effects of crossing the Breeds.

The great improvement of the breed of horses in England arose from crossing with those diminutive Stallions, Barbs, and Arabians; and the introduction of Flanders Mares into this country was the source of improvement in the breed of cart horses.

The form of the swine has also been greatly improved, by crossing with the small Chinese boar.

Examples of the bad effects of crossing the breed.

When it became the fashion in London to drive large bay horses the Farmers in Yorkshire put their mares to much larger stallions than usual, and thus, did infinite mischief to their breed, by producing a race of small chested, long legged, large boned worthless animals.

A similar project was adopted in Normandy, to enlarge the breed of horses there by the use of stallions from Holstein; and, in consequence, the best breed of horses in France would have been spoiled, had not the farmers discovered their mistake in time, by ob-

serving the offspring much inferior in form, to that of the native stallions.

Some graziers in the Island of Sheppey, conceived that they could improve their sheep by large Lincolnshire rams, the produce of which, however, was much inferior in the shape of the carcase, and the quality of the wool; and their flocks were greatly injured by this attempt to improve them.

Attempts to improve the native animals of a country, by any plan of crossing, should be made with the greatest caution; for, by a mistaken practice extensively pursued, irreparable injury may be done.

In any country where a particular race of animals has continued for centuries, it may be presumed that their constitution is adapted to the food and climate.

The pliancy of the animal economy is such, as that an animal will gradually accommodate itself to great vicissitudes in climate and alterations in food; and by degrees undergo great changes in constitution; but these changes can be affected only by degrees, and may often require a greater number of successive generations for their accomplishment.

It may be proper to improve the form of a native race, but at the same time it may be very injudicious to attempt to enlarge their size.

The size of animals is commonly adapted to the soil which they inhabit; where produce is nutritive and abundant, the animals are large, having grown proportionally to the quantity of food which for generations, they have been accustomed to obtain. Where the produce is scanty, the animals are small, being proportioned to the quantity of food which they were able to procure. Of these contrasts the sheep of Lincolnshire and of Wales are examples. The sheep of Lincolnshire would starve on the mountains of Wales.

Crossing the breed of animals may be attended with bad effects in various ways; and that, even when adopted in the beginning on a good principle; for instance, suppose some larger ewes than those of the native breed were taken to the mountains of Wales and put to the rams of that country; if these foreign ewes were fed in proportion to their size, their lambs would be of an improved form & larger in size than the native animals; but the males produced by this cross, though of a good form, would be disproportionate in size to the native ewes; and therefore, if permitted to mix with them, would be productive of a standing ill-formed progeny. Thus a cross which, at first, was an improvement, would, by giving occasion to a contrary cross, ultimately prejudice the breed.

The general mistake in crossing has arisen from an attempt to increase the size of a native race of animals; being a fruitless effort to counteract the laws of nature.

The Arabian horses, are, in general, the most perfect in the world; which probably has arisen from great care in selection, and also from being unmixed with any variety of the same species, the males have therefore never been disproportioned in size to the females.

The native horses of India are small, but well proportioned, and good of their kind. With the intention of increasing their size, the India company have adopted a plan of sending large stallions to India. If these stallions should be extensively used, a disproportioned race must be the result, and a valuable breed of horses be irretrievably spoiled.

From theory, from practice, and from extensive observation, which is more to be depended upon than either, it is reasonable to form this conclusion, that it is wrong to enlarge a native breed of animals; for in proportion to their increase of size, they become worse in form, less hardy, and more liable to disease.

From the *Massachusetts Agricultural Journal*.

ESSAYS ON FLAX HUSBANDRY—By S. W. Pomeroy, Esq. first Vice-President of the Massachusetts Society, for promoting agriculture.

The great surplus and depressed prices of our chief agricultural products, render it necessary for the far-

mer to seek others upon which he may calculate for more profitable returns, or at least, such as will constitute a division of his risk; with this view *flax* may be presented as an item deserving particular consideration.

For twenty years preceding 1816, the annual export of *flax seed* from the United States, averaged but about 250 thousand bushels! When they were British colonies, with one fifth of the present population, and a territory under cultivation probably much less in proportion, there was exported in one year (1770) upwards of 312,000 bushels. (1) It is very obvious, that the causes of this decrease, so disproportionate to the increase of all other products of the soil, may be attributed to the introduction of vast floods of cotton fabrics and yarns, at prices, (nominally) very low, and the unexampled demand for breadstuffs and other food, during the period referred to. The effect has been to place *flax farming* so far in the back ground, as scarcely to attract the attention of agricultural societies, when engaged in promoting improved methods of cultivation for other crops; and also, it is feared, to curtail household manufactures, the extension of which, it will not be denied, is eminently conducive to the prosperity of an agricultural people. For although prudent farmers have usually a *small patch*, the object has been so inconsiderable as not to demand any particular care in its management, and a tolerable crop, which, in Europe is considered as certain, as any they raise, is supposed in many districts to be the effect of chance, or, as it is termed, *good luck*. We will not pretend that flax was at any period in this country estimated as a profitable, though formerly a necessary crop. But it is presumed, such has been the acquisition of knowledge, and improvements in agriculture, and especially those branches of mechanical science connected with it, that an entire new view may be taken of flax husbandry—that it may be made to enter into the agricultural system of the country much more extensively than heretofore, and possibly be ranked as a considerable, and not unprofitable staple. With these impressions I have devoted some attention to the subject, and shall submit such information as I have been enabled to collect from various authentic sources; together with some remarks and intimations, which, should they throw no light on the question, may promote enquiry, and induce others, possessing better qualifications and more experience, to pursue the investigation.

My attention was drawn to the present object, in consequence of viewing the manufactories of sail cloth, at *Paterson*, near the falls of the Passaic in New-Jersey, the last autumn: where I was informed that 6,000 bolts of buck had been made for the navy, the year preceding, of a quality superior to what I was prepared to expect, and which is pronounced, by those experienced in nautical affairs, to be worth, for service, from 30 to 50 per cent. more than canvas imported from Russia! Indeed the respectable and liberal proprietors of those establishments are entitled to great credit for the perfection of this article; it is presumed they have conformed to the particular stipulations of their contracts with the commissioners of the navy board, who in this instance, as in others, are conspicuous for their attention to those minute details so necessary to insure solidity and permanence to what pertains to that department. But the political economists, and perhaps some farmers of the United States, will be surprised when told, that "the *flax*, from which this sail cloth was fabricated, was imported from Ireland and the Baltic! that if a sufficient quantity of native growth, could have been procured (which was doubtful) it does not possess sufficient strength to make such canvas, as the navy board would, or ought to have been satisfied with!" The question occurs, what is the cause of this inferiority? It will not be pretended, we believe, that there is any inherent defect in the soil, or that the climate is uncongenial to its perfection. On the other hand it will be admitted that there is nothing so peculiarly favourable, as to require less attention and care in the

(1) Pitkin's Statistical View.

cultivation, than is bestowed in those countries in Europe, where it forms an important agricultural staple, and where similar management would unquestionably produce the same effects; for, however plausible the prevalent opinion may be, that the inferiority of American flax is owing solely to the injudicious preparation by *dew rotting*, and we will grant it is one very prominent cause, still there are others, which will be noticed in the sequel, that may be considered as having a very powerful influence in deteriorating the *quality*, as well as lessening the product.

The common flax plant (*Linum Usitatissimum*) possesses habits more peculiar than any other within the range of our cultivation—and it may be useful in order to reconcile the farmer and to impress on his mind the importance of attending to those habits, to trace this plant to its native soil, or rather to the country where they were acquired by cultivation, for a vast series of ages—for it is not improbable that, like the *small grain*, its present appearance is essentially different from that in its indigenous state; but to which it seems to be returning, in some parts of our country, by gradations less imperceptible, than it may have originally advanced.

Linen is mentioned at a very early period of sacred history as the production *only* of Egypt. The most ancient and credible author of profane history (2) speaks of its remote antiquity being peculiar to that country—and those writers, who treat of the fabulous ages, ascribe the culture of flax and invention of spinning and weaving to Isis, a queen of Egypt; the *Ceres* of the *Greeks*, to whom they attribute the discovery of bread corn. But if there was any question on this point, the *habits* of the *flax plant* denote its most natural soil to have been on the margin of a river annually inundated, subsiding exactly at the period of seed time, leaving an entire new soil, or, by forming new combinations, completely renovating the old, which soon becoming dry, mellow and friable at top; retaining, or having conducted by art, sufficient moisture at bottom, aided by copious dews to ensure its maturity, but never any rain or storms to beat it down! where could I have found such a location but on the banks of the Nile? (3) It has degenerated when transplanted to every other country, probably in proportion to the want of care and attention to assimilate the soil, and gratify that impatience of change, to which it has been so long habituated. Hence it is that flax owes the reputation of being the most exhausting of all crops. Let us enquire to what extent it may be well founded.

Sir Humphrey Davy remarks, in his "8th lecture on agricultural chemistry," that "it is proved by facts stated in his 7th lecture, that plants require different materials from the soil, and that particular vegetables require peculiar principles to be supplied to the land in which they grow." And "as a most remarkable instance of the power of vegetables to exhaust the soil of certain principles," he states "that mushrooms are said never to rise in two successive seasons on the same spot." He might have cited *flax*, as another instance not less remarkable! These facts are further substantiated by the effect produced on the soil, where *old fruit trees* have grown, in retarding the progress of young trees of the same family or species; for instance, a young cherry tree, planted on the spot from which an old one had been dug up, will remain nearly stationary for a length of time with the highest cultivation; remove it to the spot that has been occupied by an old pear tree, and plant a young pear tree in its place, and both will immediately become as flourishing as if no tree had ever been produced on the land. Of this fact I have experienced the most complete demonstration repeatedly within the last twenty years. It is, moreover, well known to most farmers, that an *apple orchard* will not succeed on land that had before been occupied by one, but that cherry or peach trees will grow vigorously on such land.

(2) Herodotus, Euterpe. chap. 37. 105.

(3) The inundation of the Nile begins to decrease about the 20th September. The seeds are sown and the crops perfected while the sun is in the southern tropic.

From these premises very potent arguments might be drawn in favour of a regular rotation of crops and against summer fallows.—They are here introduced to shew, that although a single crop of Flax will so exhaust the soil of "certain principles," that a repetition cannot take place with any prospect of success, even with large quantities of manure, under a lapse of from four to eight years, according as those "materials" necessary to its growth may be more or less retained, or supplied, yet it does not follow that the soil is exhausted of the food necessary to promote the luxuriant growth of other plants! The soundness of this position is supported by the usual practice in Europe and this country, of sowing clover and grass seeds with Flax, which is considered not more exhausting, and a better protecting crop than Oats or Barley; and it is probable that the result may be similar if we extend the enquiry, but it is unimportant at present, for good husbandry will ever dictate that clover or grass should be the next course in rotation to Flax.

We necessarily look to Europe for instructions in Flax husbandry, and first turn to Ireland, where it was introduced in 1696, under the patronage of William the third, eight years after he left Holland to wield the British scepter. "An able and impartial enquiry (4) computes that in less than forty years from that period, the home consumption and exportation of Linen, amounted annually to one million sterling," which, if we allow for the difference in the value of money, may be equal to ten millions of dollars at present, "and this from thirty thousand acres of land; employing, in raising and manufacture, one hundred and seventy thousand persons." When this trade was in its infancy, the Dublin society was instituted for its promotion, and some years after published several tracts on the culture of Flax; from which, and from the tour of Arthur Young in that country, we derive some important facts, yet upon the whole, less information is obtained that is applicable to the management in this country, than we were led to expect, owing to the minute subdivision of the land among the cultivators, (a cotter seldom occupying more than a quarter of an acre) the very great difference of climate, and, above all, the uncommon fertility of the soil, which Sir H. Davy, in his 4th lecture, attributes to the proximity of the rocky strata to the soil, in that moist climate. But Mr. Curwen, long a distinguished statesman in the British parliament, and who, as an agriculturist, ranks with Mr. Coke and Sir John Sinclair, made a tour throughout Ireland in 1813 "with views directed to its agriculture and rural population," and to investigate the cause of the misery and degradation of that noble spirited, generous, but mismanaged people, remarks, that "he does not think the causes assigned by Sir H. Davy for this superior fertility are at all satisfactory, that those demi-tints, which in England distinguish lands that are exhausted, are in Ireland almost unknown; the verdure is everlasting and luxuriant, arising, as he should suppose, from some inherent quality of the soil, which keeps it in a proper state to admit the salutary influences of the atmosphere; that the richness of the surface resists all the efforts of man to sterilize it," and he gives the Irish credit for being very persevering in their endeavours for that purpose. (5) Notwithstanding this extreme fertility, Mr. Curwen says that the Flaxseed raised in Ireland was supposed to produce inferior plants, and that the Linen board of the Dublin society took charge of the importation of foreign Flaxseed for the supply of those who could not otherwise obtain it. This information relates to one of the most important features in flax farming, CHANGE OF SEED, which will be considered in our next essay.

(4) See Campbell's Political Survey.

(5) Observations on the state of Ireland, by J. C. Curwen, Esq. M. P. London, 1818.

TO DESTROY BUGS ON MELONS.

Seeing in your last number of the Farmer, remarks on Melons, &c. induces me to state my mode of pro-

tecting them and Cucumber vines, from the depredations of the striped back yellow bug: Take a quantity of hen dung, soak and dilute it in water, until it is of the consistency of white wash or paint, and with a brush, sprinkle the vines and earth around the stems with it; and the bugs will decamp.—It is also the best manure that can be applied to them.

T. MASSEY.

Rose Ville, Del., June 20, 1821.

For the American Farmer.

ON THE MANAGEMENT OF INDIAN CORN.

In reply to Mr. McMechen and "Tuskarora."

A communication from Mr. "McMechen" of Moorefield, appeared in the Farmer of the 6th inst. in answer to which I will only make a few remarks. We appear to coincide in opinion as regards the practicability and utility of the most important point; the saving of corn, stalk and all. There is a little difference in the particular manner in which, we think, this should be done. He advises that a few rows at a time be cut and stacked immediately, and that the piles be afterwards enlarged by as many intermediate rows that should have been left standing till the whole field be gone over. It is highly probable that this plan, upon the whole may be preferable to the one recommended by myself. I still think, however, that in one respect it is inferior. By giving the corn, as it is cut, a little sun: it appears to me that the operation may be performed much earlier in the season than it otherwise could be without injury. I may have allowed rather too long a time for it to remain on the ground. A day might probably do. Last year, the whole of my corn crop, amounting to one hundred acres, was secured in the manner recommended. We commenced cutting and stacking on the 16th of September, and finished before the last of the month. Some of it was put up in large stacks as soon as cut, and a part remained on the ground from one to three days. The corn when husked proved to be all equally as sound as if it had remained on the stalk till November. In the stalks and blades I also found little perceptible difference. But the spring of 1820, was uncommonly forward, and the year for corn, a good one. Should the weather, at the time of cutting, be damp or threatening, I cheerfully admit that the plan of Mr. M. has many advantages over mine. A very important point is to get the corn secured in the field, as early in the year as possible, to make room for the wheat crop. The last of September will do, but the middle would be better, as many farmers commence sowing wheat as early as that date, and some even as soon as the first of the month. When tops are cut and left on the ground a day or two to dry, we do not find, without they should have been exposed to rain, that any material injury is sustained. For his efforts in "furtherance" of my plan, about which it seems I am yet to have some trouble, Mr. M. has my sincere thanks. It was in his section of the country, that the plan of cutting off corn, first originated—it is now promulgated to the American public, with the hope that it will not be so sceptical of the merits of a system, as to suppose merely because it is new, that it must be a visionary innovation on the interest of Agriculture.

A writer over the signature of "Tuskarora," requires some attention. I am sorry that my suggestions do not meet with his approbation. I should be unwilling, at this time, to commence an Agricultural controversy with any one, and much more with a puissant name-sake of an Indian Chief. He "knows, or at least thinks it highly probable, that the culture of corn, will be better understood and practiced where it has been cultivated as a staple production both for domestic consumption, and for market, than where it has not been used for both purposes"—and from this opinion, draws the conclusion, that the tide-water counties of Virginia, know more about the management of this crop, than they

possibly can, in Fauquier or any of the back counties—and that his experience of "thirty years" with that of many others, has clearly proved that the old way is the best. Although at first sight these arguments appear plausible enough, a very little reflection will convince us of their fallacy. When the soil is so congenial to the growth of any crop, that it may be raised with little difficulty, little attention is invariably paid to improvements in its culture. A moderate crop attained with a considerable degree of certainty by ordinary means, is sufficient to supply the wants and satisfy the wishes of the careless cultivator. It is rather in a climate where nature has been less lavish of her favours, that we should expect beneficial improvements in the science of Agriculture. When the product of the earth is barely sufficient, with the most rigid economy, to support human existence, the ingenuity of man is whetted, by "necessity the mother of invention", to overcome such obstacles, as by more fortunate individuals, would be deemed absolutely insurmountable. There appears then, to be no sort of necessity for our taking the simple opinions of a Gloucester Corn Planter, as orthodox on the culture of that Plant, merely because he lives in a country where corn is the "staple", and has had the benefit of "30 years" experience. Could our mortal peregrinations be extended to such a limit, he might, possibly, have been at the same business for 30 thousand years, and after all not have known, one word more about the matter, than did the naked subjects of his merciless Prototype. I am far from supposing, however, that this, or would really be, the case with our modern "Tuskarora", and we have great satisfaction in acknowledging and hoping that he may be as learned, and as experienced as the absence of error can make him. I am supposed to be a "young gentleman who write more for my own amusement, than for the information of others" and nearly my whole system denounced as the crude theory of a distempered brain, merely because I had the candour to acknowledge that I never had the advantage of "thirty years" experience, which in the opinion of "Tuskarora" appears to be the "sine qua non" of an Agricultural investigator. Some of the greatest benefactors of tillage, of whom we have any information, were men not conversant with its practical details. The great Roman Poet, whose writings have been the admiration of every age, from his own to the present, was at most a practical cultivator on a very limited scale—And even "Tuskarora" will not deny that Virgil did more good to the agriculture of the Roman Republic, than could have resulted from the united efforts of ten thousand clodpates. I have not the vanity to suppose, that my own name can, with propriety even be mentioned on the same page, with that of such a celebrated Bard: the fact has been adverted to, only to show that "30 years" of experience may, in some cases, be dispensed with, without the hazard of being always led a wild goose-chase by the undigested speculations of a "novice." This much I have said on the admitted supposition, that I have no experience whatever. But for the edification of my generous opponent, I will state that although on the sunny "side of sixty" I am no chicken still. My whole attention has been paid for 7 years past to that profession on which I have dared to write, and by which I receive my only support. Under the impression that the "conduct of men should be measured by their actions and not by their professions," I did not suppose it would be considered of much importance, whether I had been a farmer for seven years, or for 30. "Tuskarora" agrees with me, that to plough a poor soil from seven to twelve inches deep, would be beneficial, but is at a loss to know "how to make this 12 inch turn under." In laying down the requisite depth of good cultivation, it was not necessary to confine myself to what was commonly done, for in that case I might have said 3 inches; all that was deemed important, was to embrace what may be termed the *ultimatum* of American Ploughing. Though I have never seen a large field ploughed 12 inches deep, I have several times seen small spots ploughed to that, or very nearly that depth even in this neighbourhood. If "Tuskarora's" county men,

would be rather more liberal in the distribution of their sweet smelling corn blades to their plough teams, to the no small discomfiture of that useless animal, the race horse, he might probably be convinced that the hope of descending 12 inches into the earth is not altogether so forlorn as he seems to imagine. He cannot tell what "abstracted grass" can mean, without it be dead grass. He has been guilty of some unfairness in quoting my words, so as to make out a different signification from what was intended: My language was this; "the growth of grass, does not in the abstract injure that of corn."—The word "abstract" is here placed between the auxiliary and the governing verb "injure", and was intended in some measure to qualify the sense conveyed by that verb. The growth of grass might injure that of corn in three different ways; by drawing that nutriment for its own support, which the crop should have—by shading the corn, and by occupying the ground which might be absolutely necessary for the corn-roots. In speaking of that supposed injury which the corn might receive from a monopoly of its food, I used the word "abstract" to mark the difference between that and the other two, and which conveyed the same idea, as if I had said "grass does not, simply by its growth, injure that of corn." I may have been deficient in syntactical precision, but the Essays in question were not designed for the frivolous exercise of critical sagacity. The invincibility of a patriotic army of grenadiers, seems to excite the risibility of a Gloucester Corn Planter. It is admitted, that even a host of that sort may have been overcome by their "equals in courage, their superiors in number." But in narrating the actions or prowess of mankind, we always speak relatively. An army of patriotic grenadiers, is much more likely to be invincible, than any other body of men, not superior in number. I can see no impropriety in comparing what has been very justly termed the "prince of plants" to the stubborn courage of a gigantic soldier. A languid attempt at witticism is made on the expression, that "Indian corn is the most vigorous plant in the natural world": Without wandering from our globe, I should have supposed a gentleman who writes as well as "Tuskarora," might at least have heard of the natural, the moral, the scientific and political worlds. "After it shall have become knee high, no wet destroys—no drought kills—no grass can injure it": Taking the two first of these expressions in a literal sense, I am certainly correct, for barring an extraordinary dispensation or supernatural power, I never heard of a rain so heavy since the time of miracles, as completely to destroy corn knee-high, or a drought so severe as to entirely kill it. It is true, that were the Rappahannock to flow out of its channel, on either of its banks, the corn would be drowned, and many of the inhabitants in the bargain. A rain of forty days and forty nights, would be attended with consequences fully as direful. Were the sun to advance out of his resting place, fifty millions of miles nearer this earth, than he remains at present, I cannot doubt but the corn would be all burnt up. We have the consolation to know, however, that such occurrences, though barely possible, are not very probable. In the ordinary course of the season, by an improved cultivation, I contend that we might counteract, at least in a greater measure than we do at present, those little whimsicalities of nature, which we every year meet with, and which as prudent men, we should occasionally expect and endeavour to render harmless. "No grass can injure it." In one of the Essays on "Rural Economy," from which this sentence is transcribed, I endeavoured to prove that corn sustained no injury from the mere growth of grass, admitting at the same time, that a grassy corn field was generally a sorry one, but contending that what was only the effect of bad cultivation—the growth of grass, was inconsiderately taken for the cause of the indifferent crop, which was wholly and solely the want of proper cultivation. When corn becomes knee-high, I presume it is beyond the reach of injury from the shade of grass; if then the correctness of my first postulate be admitted, I think I can with great confidence, affirm that "no grass can

injure it." When this position shall have been shaken by the arguments of "Tuskarora," or any one else, it will be time enough for me to reply to them. A Gloucester Corn Planter, cannot conceive how it is possible that my mouldy corn stalks can be superior in "quantity and quality" to his finely cured blades and tops—and I will readily allow that no one else can, admitting his statement to be correct, that the corn is "put up into small, slovenly cocks," merely to rot. Upon what authority he states this fact I know not. Had he read the letter of Mr. Mc. Mechen, he would have seen that there are in the world, besides myself, other strenuous advocates of the system, against which he has so earnestly invoked the maledictions of society, and who, more fortunate than myself, may by an experience of 50 years, possess the requisite passport to credibility. By the statement of the same gentleman, it will appear that corn is secured in that way, not merely as food for stock, but as food for man, and that it is as free from "mould or any other unpleasant smell," as if put in the most airy corn house; and furthermore, that it is more secure from the depredations of rats and mice, than when housed in the common way. If corn, when cut, be nicely put up in piles or cocks, which both admit air and turn rain, I can divine no cause why it should be so much inferior either in "fine smell or nutritive power," to the favourite blades of a Gloucester Corn Planter. If I rightly remember, the simple stalk is considered of more importance by Arator, than all the balance of the plant, with the exception of the grain. It was on this part of the plant, that I relied for the superior food, both in "quantity and quality" and not to the "same parts of the corn plant," which alone is thought worth saving in the lower country. The slightest observation will convince any one, that the stalk contains more saccharine or nutritious matter, than the blades, husk and cob put together, and consequently must be, for stock, a stronger and better food than a comparatively small quantity of blades, which admitting them to be twice as fragrant as they really are, I still contend are not worth the trouble of gathering.—In speaking of the manner of curing fodder, my Friend appears at least to doubt the fact of my ever having seen the blades put loose between the stalks to dry, and unblushingly affirms that he never has "witnessed a process similar to the one described." The man really is to be pitied, who with the advantage of an age of experience, appears not even to understand the details of his own system!—with a far less debt to the stock of time, I have lived long enough to have seen and practised both plans, and long enough to be well convinced by experience, that the bundling of blades, immediately when pulled, is fraught with bad consequences. The main object of the farmer is to get the blades sufficiently cured for the cock or stack, as soon after they are pulled as possible. When they are placed loose between the stalks, without the smallest danger of being blown away, they will cure in half the time, as when tied up immediately. Indeed when they are secured in the way which he prefers, it is very difficult to cure them thoroughly at all. Nothing is more common than to see blades completely spoiled in the stack by fermentation. For the further information of a Gloucester Corn Planter, who seems to be as spasmodically affected by the bare word Theory, as a mad dog is by the sight of water, I beg leave to state that the method of raising corn, as recommended by myself, if we except the general use of the coulter, is precisely the same that is now practised by the best farmers, in a great part of Fauquier and Loudoun Counties: where notwithstanding the less favourable advantages of soil and climate, they frequently make as much per acre, as is made on the fine bottoms of the Rappahannock, or even the Black Swamp of Gloucester. The plan of cutting and stacking corn has been in successful operation on the South Branch of the Potomac, for 20 or 30 years. Some of the very worst cultivators which appear in this country, are Tobacco Planters, with the experience of half a century, metamorphosed by necessity into Farmers. Too closely wedded to old habits to allow the intro-

duction of modern improvements, they appear to be doomed during the remainder of their lives, to turn the same barren clod, with little more success, than had the unfortunate Sisyphus with his intractable rock. Whether it be more pleasant to travel on the "King's Highway," or by the uncertain indications of an Indian trail, I leave to the decision of those most interested.—To write for a newspaper, may, to a gentleman gifted with the oily fluency of "Tuskarora," be a source of pleasure; but to be engaged continually with the irksome task of instructing others, I can positively assert affords no amusement to me; and as a proof of my sincerity, should the courtesy of my generous Friend permit it, I shall now descend from the giddy height of public observation, to the more agreeable pursuit of domestic concerns.

R. B. BUCKNER.

Vint Hill, Fauquier County, Va. }
22d May, 1821. }

For the American Farmer.

OYSTER SHELLS.

ANSWER TO W. R.

Fresh oyster shells when ground, become valuable manure—they convey not only animal, saline and calcareous matter to the land, but mechanically separate its parts. In England and Pennsylvania, they are frequently so applied. It is not more absurd to prescribe the same nostrum for all diseases, than to apply the same manure to every soil. A skilful farmer consults the constitution of his land, ascertains its constituent parts and endeavours to supply its deficiencies, by artificial means. If it require lime in its caustick state, he will burn marine shells, and thus obtain one of the most pure, and active limes which nature can afford, not only without sand, but free from all deleterious matter with which stone lime is frequently combined. It is obvious that if the shells shall have been long exposed to the atmosphere, the animal and saline particles will have escaped, leaving nothing but calcareous matter to operate upon the ground—shells which have been so exposed are more cheaply reduced to powder by Fire, than by any other means; and for the purposes of caustick lime, they should be selected always. It has been found that recent shells, or those which have been roasted before exposure in the kiln, become black, and so difficult to be slaked, that they remain beneath the soil, unaltered for a season and often more. It is probable that the animal matter distributed throughout their pores, when exposed to sudden heat becomes carbonized, and thus excludes the moisture necessary to reduce them. The chemical agency of lime in exciting fertility has been so fully explained by Sir Humphrey Davy, its sensible effects upon soils are now so completely established by practical men, that there is scarcely a farmer who is ignorant of its excellence, yet half of the value is generally lost through inattention to the time and mode of its application.

CURWEN:

Philadelphia County, June 19, 1821.

TO DRAW HAY TO STACKS EXPEDITIOUSLY.

Hardy County Virginia, Morefield. }
February, 1821. }

SIR—Our mode, on the South Branch of the Potomac, of drawing hay when in the cock, to the stack is so simple, that I could as soon put it in operation as describe it. We rake all with the horse rake as before stated, and we draw the cocks also by horse and in the following manner: A rope, chain, or grape vine will do very well; but the best way is to use two poles about ten or twelve feet long, about as thick at the but end as a man's arm—the poles cut off at the root so as to have a nub at the end, to hold a small rope to confine the two butts, to within eighteen or twenty inches of each other—trim them up smooth, and let each have a fork at the small end, to fasten a

trace to with a small string—the other end of the traces, to be hooked to the hames, so as that the poles can be lengthened or shortened agreeably to the size of the cocks; one end to drag till you get to the hay, then put a small boy on the horse, let him ride round the cock, and stop with his horse's head towards the stack, or barrack. A weak hand will do to hitch on the load, which is done by putting the poles around the cock, close to the ground, lifting the hay at each side of the cock, to permit the poles to go a few inches under it; then make the trace fast to the hames; step behind the cock, and put your feet on the but end of the poles, to keep them to the ground at starting, also holding the top of the cock with your hands, to keep it steady until it is under way. The rider then drives to the stack, un-hooks the chain from the hames on the side next to the stack, wheels around with his horse, draws the poles out behind by the other chain, and gallops off to the next cock, where the hitcher is ready; having with a hand rake taken up in the meanwhile any lock that may have stuck in the stubble at the bottom, and put it on the top of the cock to be next taken. We generally let the cocks have one night to settle. One hand will hitch for two or three horses, and three horses, with lively boys to attend them, will draw as fast as four pitchers will put it up to two stackers, until the cocks get forty or fifty poles distant from the stack, when four horses would work to the best advantage. When we take chains to draw with, we tie four iron traces, end to end. Good hands will become expert in either mode by an hour's practice.

Very respectfully, your's,
ABEL SEYMOUR.

SMILEX; may it not drive away Rats? BOTONICAL ANECDOTE.

Some years past, whilst traversing a field near Baltimore, I took up a young plant that looked like a long shoot of asparagus, and planted it in a corner of a little cultivated lot. The plant grew to a short vine and produced some herbaceous colored flowers. About this time I perceived a most unpleasant smell on passing near the place, which I conceived to be from a dead rat which it resembled very much. A servant was dispatched to hunt out the nuisance, but returned without being successful. As it infected the common pass to my house, I was obliged to undertake the odious task myself, and after some time, when actually brushing the vine, I discovered to my great surprise, that it proceeded from the blossoms on my new plant. Whether Flora is fond of contrast I know not, but when I compare the Rose, the Azoean Jessamine, and the Olea Fragrans, with the Fritillaria,* the Stercoria, the Ferrula† and my abominable Smilax, I am somewhat at a loss to know how Miss Flora's olfactory nerves can form such associations, and wonder that she does not turn these latter off from the list of her maids. But methinks the eye, the insects, the wren, the Hypochondriac Patient, the Doctors and perhaps the Farmers (if any of them drive off rats) all plead with her to spare them, whilst the nose must acknowledge his highness to be amply supplied from the residue—and should remember the stories of the Roman general, and

* Fritellarea or Crown Imperial. The wren is fond of running up the stalk and sipping the distillation from its nectaria, tho' a most abominable flavour to our taste.

† Ferrula is an umbelliferous plant, producing asafœtida—it is mentioned by Captain Riley, though he seemed unacquainted with it.

Paul against giving one member all the honor at the expense of the others. To ascertain whether a cat had the same idea of a rat smell, I took off one of the blossoms of the Smilax Pseudoacacia (as Bartram calls it) and moved it gently towards the nose of a fine cat that lay asleep, but without touching her—in an instant she made a blow at it with her paw, and sprung up as if a real rat had touched her. The experiment was repeated again with nearly similar effect. Would not some of these flowers drive away rats? It appears to be the resemblance to old haunts of mice and rats that gives this virtue to hound's tongue (cynoglossum) which when dry and a little old, has this flavor manifest to every one. But the flavour of dead rats must be more terrifying to live rats than the smell of a deserted haunt.

RUSTICUS.

P. S.—The growth of this Smilax resembles the young cinnamon, which gives it the specific name.

THE FARMER.

BALTIMORE, FRIDAY, JUNE 29, 1821.

In the report of the late Cattle Show, regret is expressed that the blood of the fine Devon Cattle, sent by that eminent English farmer, Mr. Coke of Norfolk, to Mr. Patterson of Baltimore, cannot be more rapidly diffused throughout the State—and that some of the Bulls have not been offered for public use. We are happy to state that the wishes expressed in behalf of the publick are in a fair way to be realised.

The increase of the females must necessarily be slow, and until they are more numerous they ought to be retained, guarded and fed, with sedulous care, in order to preserve the breed in its imported purity.—A different course of treatment by any into whose hands this stock may happen to fall, would be reproachful to the country.

These Cattle were landed here in the month of June, 1817, and consisted of one Bull of one year old, and six Heifers of two years old each.

Mr. Patterson's division consisted of three Heifers, one of which died the following year, and the use of the original Bull for one year—an accident has since rendered him useless.

From his part of this Stock Mr. Patterson has furnished three Bulls one to the State of Connecticut, one to the State of New-York, one to a generous publick spirited landholder of this town, and another has been recently and very kindly offered to be placed on the Editor's Stock-Farm for the use of the publick.

Mr. Patterson has been an experimental farmer for more than 40 years, and has imported more live stock, of greater variety and at greater expense, than perhaps any other individual. There is not a drove of fat Cattle brought to our market, which may not be recognised as the descendants of the Stock imported from time to time by Mr. Patterson, the late Mr. O'Donnell, Gough, Sprigg and a few others.—Every one admires the fine points displayed in these descendants—whilst the greater number of those who see them, set them down as fine country cattle, while few have the means or take the trouble to trace them back to their

imported progenitors, and give the credit where it is due.—We shall be glad to preserve in this Journal the history of every importation of live stock that is furnished us—as well as an account of the sales of all such stock.

We commence in this number, with much satisfaction, the publication of a series of numbers on *Flax Husbandry*, from the pen of S. W. Pomeroy, Esq. first Vice President of the Massachusetts Agricultural Society.—The subject is one of great interest, and fortunately, it could not have fallen into hands more capable of doing it justice. No article has fallen in price so little as flax—and since the Navy Board, with a wisdom, forecast and economy, which distinguishes all their proceedings, have determined to use none but American Duck, (which, on trial, has been found to wear double the time of Russia Duck) a ready market will be found for all the flax and hemp that can be furnished. The manufacture of this article has been brought to great perfection at Paterson, in New-Jersey. It is found not to *mildew*, as English duck does, and it is satisfactory to believe that the enterprising manufacturers are likely to find adequate encouragement. It is our duty to point out new and more profitable objects to engage the industry of the farmer, and accordingly we recommend the "*Flax Husbandry*", as worthy of his immediate attention.

PRICES CURRENT.

Flour from the wagons, \$4 12½—Whiskey from do. 24 cts. inclusive of barrel—Hay, per ton, \$18 a 20—Straw, do. 7 a \$8—Wheat, White, 85 a 87 cents—Red, do. 82 a 81—Corn, 39 a 40, brisk sales—Oats, 23 a 24—Rye, 40—Cod fish, per quintal, wholesale, \$3, retail do. \$4—New-England Beans per bushel, \$1 12½—ditto Peas, 75 cents—Plaster in stone \$6 per ton—do, ground, \$1 35 per barrel, 33 cts. per bushel, \$8 per ton—New-Orleans sugar, \$9 to 12 50—Muscovado, do. \$9 a 12—American White Lead, \$12 50—Ground do. 13 a 14—Linseed Oil, 75 cents—Feathers, 40 a 45 cents—Potatoes, per bushel, 62½ a 75 cts—Shad, new, \$6—Herrings, \$2 a \$2 25, declining—Fine Salt, 55 cents per bushel—Ground Allum do 55 a 60—St Ubes, 60—Cadiz, 50 a 55—Turks Island, 75—Live Cattle, \$5 a 5 50—Beef, 8 to 10 cents—Hams, 10 a 12 cents—Middlings, 10 cents—Butter, 25 cents—Peas 50 cents per bushel—Eggs, 12½ cents—Cheese 8 a 10 cents per pound—Tar \$1 50—Turpentine, 1 87½ a 2—Pitch 2½—Rosin, common, \$1½, bright do. \$3 per barrel—Varnish, 25 cents—Spirits Turpentine, 33 cents per gallon—Cotton, (good Upland) 14 a 15 cents; very duil—Rice 3 a 3½ cents—Ship and Flooring Plank, \$15 a 27—shingles, best 6½ a \$7, common, \$3 to 4½ per M.

7 hhd's Kentucky Tobacco, very fine, sold the present week for \$6 50.

Maryland Tobacco.—But few sales for the last week—2 hhd's. wagon tobacco, highly fired, from Frederick County, sold at \$14—1 hhd. very superior fine yellow from do. sold at \$20 50—19 hhd's. uncommonly sold at \$15—40 hhd's. very fine red sold at 4 and \$7, 4 months credit—Lower Patuxent, from 2 and 4 to 3 and \$5—Upper Patuxent, from 3 and 5 to 4 and \$6

No sales Virginia Tobacco.

Printed every Friday at \$4 per annum, for JOHN S. SKINNER, Editor, by JOSEPH ROBINSON, at the N. W. corner of Market and Belvidere-streets, Baltimore, where every description of Book and Job PRINTING is executed.—Orders from a distance for Printing and Binding, with proper directions, promptly attended to.